Scientific Areas of Integrated Review Groups (IRGs)

For a listing of the Scientific Review Administrator and membership roster for each study section, click on the study section roster under the study section name within an IRG listed below or go to the study section index (study sections listed alphabetically) and click on the specified roster next to the name of the study section.

Brain Disorders and Clinical Neuroscience IRG [BDCN]

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TOP

Clinical Neuroscience and Disease Study Section [CND]

[CND Roster]

Formerly BDCN-1

The Clinical Neuroscience and Disease [CND] Study Section addresses anatomical, cellular and functional basis of neural disease and injury across the life span. Emphasis is on the neural substrate, functional consequences [cognitive, sensory/motor, behavioral, pathophysiological], rehabilitation, and the development of therapeutic strategies. Relevant disorders include stroke/ischemia, neurodegenerative diseases, epilepsy, spinal cord injury, traumatic brain injury, dystonia/ataxia, and neuropathies. This Study Section considers patient-oriented research and animal models.

Specific areas covered by CND:

- Anatomical, neuropathological, neuroimaging, electrophysiological, functional mapping, and autopsy studies to monitor the onset, progression

and treatment of brain and spinal cord disease and injury; therapeutic approaches and clinical studies; cerebral blood flow and metabolism in the context of clinical neuroimaging

- Functional and anatomical changes in sensory and motor systems associated with the initiation, progression, and treatment of neural disorders and injury

- Changes in learning, memory, language, attention, behavior, and other functional domains that are consequences of disease and injury; strategies for therapeutic intervention

- Cellular, anatomical, and systems-based studies of changes in the neural substrate and function of brain and spinal cord in response to disease and injury

- Recovery of function/rehabilitation; beneficial and compensatory changes in the neural substrate in response to clinical interventions; neurological and functional evaluation of neural prostheses, electrical/magnetic stimulation, behavioral and pharmacological interventions, and physical therapy

- Evaluation of pharmacological, transplantational, surgical, electrophysiological, physical or behavioral interventions to reduce loss, enhance function, and facilitate recovery

CND has the following shared interests within the BDCN IRG:

- **With Clinical Neuroplasticity and Neurotransmitters [CNNT]:** Brain imaging studies that focus on specific neurotransmitter systems and receptors should be reviewed in CNNT, while more general brain imaging studies of neuropathological pathways and brain dysfunction should be reviewed in CND.

- **With Cell Death in Neurodegeneration [CDIN]:** CDIN reviews studies of the molecular and cellular basis of neural disorders. CND reviews studies that focus on the neuroanatomical substrate and functional consequences. CDIN may be more appropriate for studies of gene, cell and tissue transplantation, especially if the focus is on molecular and cellular mechanisms.

- **With Clinical Neuroimmunology and Brain Tumors [CNBT]:** CNBT reviews applications focused on immune, inflammatory and vascular mechanisms, while CND reviews the anatomical and functional basis of neural disorders and injury, including functional imaging studies.

- **With Developmental Brain Disorders [DBD]:** DBD reviews studies of neurodevelopmental disorders, especially when the focus is on unique aspects of the developing nervous system. Neuroanatomical and functional disease processes that are in common between children and adults may be reviewed in CND.

- **With Neural Basis of Psychopathology, Addictions and Sleep Disorders [NPAS]:** While CND may review applications on dementias, NPAS has particular expertise to review studies of addictive, behavioral, cognitive and emotional disorders, in addition to the dementias.

CND has the following shared interests outside the BDCN IRG:

- **With the Genes, Genomes and Genetics [GGG] IRG:** The GGG IRG has shared interests with CND with respect to an interest in diseases of the nervous system. However, when the focus is primarily on molecular genetic approaches, large-scale gene/genomic/genetic studies, gene discovery using complex or novel technologies, the application may be reviewed in the GGG IRG. Applications that focus primarily on the anatomical, functional and pathologic basis of the neural disorder or injury may be reviewed in CND.

- **With the Biology of Development and Aging [BDA] IRG:** Studies with a focus on multiple system manifestations of age-related neurological diseases such as Alzheimerâ€™s disease may be reviewed within the BDA IRG, while functional and neuroanatomical changes associated with these diseases could be reviewed in CND.

- **With the Health of the Population [HOP] IRG:** Studies dealing with descriptive and analytical epidemiologic aspects of various neurologic disorders including Alzheimerâ€™s disease, Parkinsonâ€™s disease, stroke and epilepsy may be reviewed with the HOP IRG, while studies on the neural basis of these disorders could be reviewed within CND.

- **With the Biobehavioral and Behavioral Processes [BBBP] IRG:** Studies that focus primarily on behavior and behavioral approaches may be reviewed in the BBBP IRG. Applications that focus mainly on the anatomical and functional basis of the neural disorder or injury could be reviewed in CND.

- **With the Cardiovascular Sciences [CVS] IRG**: Studies dealing with cerebral circulation and hemodynamics may be assigned to the CVS IRG, while those focusing on cerebral blood flow and metabolism in the context of neuroimaging for analysis of brain and spinal cord disease or injury or the functional consequences of ischemia, hypoxia, stroke on brain or spinal cord function could be assigned to CND.

- **With the Musculoskeletal, Oral and Skin Sciences [MOSS] IRG:** CND has shared interests within the MOSS IRG with respect to research on recovery and rehabilitation. While MOSS has broad expertise in physical therapy, physiology, and non-neuronal systems, CND has particular

expertise in the neural basis of rehabilitation and recovery as well as disease that effect motor control (e.g. Parkinsonâ€™s disease, Huntington disease, essential tremor).

- **With the Surgical Sciences, Biomedical Imaging and Bioengineering [SBIB] IRG:** Both CND and the SBIB IRG review applications dealing with functional brain imaging; however, CND may review those applications using imaging as a tool to study neurological disorders or injury or their treatment. SBIB may review applications concerning the development and evaluation of imaging procedures. SBIB is appropriate for studies with focus on the development of imaging technology. However, where the proposed research is more oriented toward the application of imaging techniques for studying neurological disorders or injury or their treatment, CND may be a better review locus.

- **With the Molecular, Cellular, Developmental Neuroscience [MDCN] IRG:** Both MDCN and CND share a common interest in neurologic diseases. However, MDCN focuses largely on basic cellular and molecular processes whereas, CND reviews applications related to the cellular, anatomical and functional aspects these diseases.

- **With the Integrative, Functional and Cognitive Neuroscience [IFCN] IRG:** Both IFCN and CND share common interests in disorders of learning and memory and diseases that involve motor systems. However, when the focus is to elucidate specific normal memory processes or the neural substrates of motor function, then applications may be assigned to IFCN. Applications that focus largely on neurologic disorders and their treatment may be reviewed within CND.

TOP

Clinical Neuroplasticity and Neurotransmitters Study Section [CNNT]

Formerly BDCN-2

[CNNT Roster]

The Clinical Neuroplasticity and Neurotransmitters [CNNT] Study Section addresses the area of neural disease and injury across the life span that focuses on neurotransmitter or neurotrophic function including associated receptors. This includes studies of plasticity, regeneration, and therapeutic strategies. Relevant disorders include stroke/ischemia, neurodegenerative diseases, epilepsy, spinal cord injury, traumatic brain injury, dystonia/ataxia, and neuropathies. Studies primarily involve animal models although patient-oriented research may be reviewed.

Specific areas covered by CNNT:

- Neurotransmitter synthesis, regulation, release, degradation, and inactivation; abnormalities of receptor number, distribution and function; abnormalities of synaptic physiology; functional imaging of particular neurotransmitter pathways; role of growth factors, neurotrophins, and neurohormones

- Pharmacological studies; diagnostics and therapeutic strategies involving receptor agonists and antagonists; pharmacological effects on synaptic physiology and second messenger pathways; neurotrophins and neurohormones

- Mechanisms of degeneration, plasticity and recovery; neuropathological and compensatory changes in neurotransmitter function; role of trophic factors; therapeutic interventions

- Therapeutic approaches involving neurotransmitter function;pre-clinical and clinical studies of drugs, gene therapy, cell and tissue transplantation, including stem cells, and delivery across the blood-brain barrier.

CNNT has the following shared interests within the BDCN IRG:

- **With Clinical Neuroscience and Disease [CND]:** CND reviews applications on the anatomical and functional basis of neural disease and injury, while CNNT reviews applications on neurotransmitter and receptor function. Imaging studies other than those related to neurotransmitter function could be reviewed in CND.

- **With Cell Death in Neurodegeneration [CDIN]:** CDIN reviews applications on the molecular and cellular basis of neural disorders, including apoptosis, oxidative or general metabolic mechanisms, protein and macromolecular metabolism other than neurotransmitter-, neurotrophin- or neurohormone-related proteins.

- **With Clinical Neuroimmunology and Brain Tumors [CNBT]:** CNBT reviews studies of neural disorders that focus on immune, inflammatory and vascular mechanisms.

- **With Developmental Brain Disorders [DBD]:** DBD reviews studies of neurodevelopmental disorders, especially when the focus is on unique aspects of the developing nervous system. Neurotransmitter and receptor disease processes that are in common between children and adults may be reviewed in CNNT.

- **With Neural Basis of Psychopathology, Addictions and Sleep Disorders [NPAS]:** NPAS has particular expertise to review studies of addictive, behavioral, cognitive and emotional disorders.

CNNT has the following shared interests outside the BDCN IRG:

- **With the Genes, Genomes and Genetics [GGG] IRG:** The GGG IRG has shared interests with CNNT with respect to an interest in diseases of the nervous system. However, when the focus is primarily on molecular genetic approaches, large-scale gene/genomic/genetic studies, gene discovery using complex or novel technologies, the application could be reviewed in the GGG IRG. Applications that focus primarily on trophic, neurotransmitter and receptor function in the neural disorder or injury could be reviewed in CNNT.

- **With the Health of the Population [HOP] IRG**: Studies dealing with descriptive and analytical epidemiologic aspects of various neurologic disorders including Alzheimerâ€™s disease, Parkinsonâ€™s disease, stroke and epilepsy may be reviewed within the HOP IRG, while applications that focus primarily on trophic, neurotransmitter and receptor function in the neural disorder or injury could be reviewed in CNNT.

- **With the Biobehavioral and Behavioral Processes [BBBP] IRG:** Studies where the primary focus is on behavior and behavioral approaches may be reviewed in BBBP IRG. Applications that focus mainly on neurotransmitter and receptor function in the neural disorder or injury may be reviewed in CNNT.

- **With the Immunology [IMM] IRG:** Studies focusing on organ-specific aspects of the physiology and pathology of transplantation could be reviewed within the IMM IRG, while studies dealing with transplantation of tissue into the brain as a therapeutic tool could be reviewed within CNNT.

- **With the Hematology [HEME] IRG:** Studies that focus on hematopoiesis, blood cells and related diseases could be assigned to the HEME IRG. Applications that focus on the use of hematopoietic stem cells as therapeutic intervention following brain and spinal cord injury could be referred to CNNT.

- **With the Endocrinology, Metabolism, Nutrition and Reproductive Sciences [EMNR] IRG:** Studies that focus on the neuroendrocrine control of reproduction, gonadotropin releasing hormones, pituitary hypothalamic connections and pituitary gonadal interactions could be assigned to the EMNR IRG, while those applications focusing on the effects of neurodegenerative disease and brain injury on neuroendrocrine function could be reviewed within CNNT.

- **With the Musculoskeletal, Oral and Skin Sciences [MOSS] IRG:** CNNT has shared interests with the MOSS IRG with respect to research on recovery and rehabilitation following injury to the CNS. While MOSS has broad expertise in physical therapy, physiology, and non-neuronal systems, CNNT has particular expertise in the neural basis of rehabilitation and recovery particularly following spinal cord injury.

- **With the Renal and Urological Sciences [RUS] IRG:** Studies focusing on central nervous systems regulation of urological function could be assigned to the RUS IRG, while applications dealing with bladder problems secondary to spinal cord injury may be assigned to CNNT.

- **With the Surgical Sciences, Biomedical Imaging and Bioengineering [SBIB] IRG:** The SBIB IRG may review studies with focus on the development of imaging technology. However, where the proposed research is more oriented toward the application of imaging techniques for studying neurological disorders or injury or their treatment, CNNT may be more appropriate. Both CNNT and the SBIB IRG may review applications dealing with functional brain imaging; however, CNNT may be more appropriate to review those applications using imaging as a tool to study neurological disorders or injury or their treatment. SBIB may be more appropriate to review applications concerning the development and evaluation of imaging procedures.

- **With the Molecular, Cellular and Developmental Neuroscience [MDCN] IRG:** The MDCN IRG reviews applications on the basic mechanisms of neurotransmitter and receptor function, and review applications more focused on fundamental cellular and molecular mechanisms. Studies of the fundamental role of neurotransmitters and related molecules in development and plasticity could be reviewed in the MDCN IRG, while applications focusing on trophic, neurotransmitter and receptor function in the neural disorder or injury could be reviewed in CNNT. In addition, studies using stem cells where the primary goal is to advance understanding of neural induction, specification, or differentiation are appropriate for the MDCN IRG. Studies focused primarily on restorative/therapeutic outcome may be appropriate for review within CNNT.

- **With the Integrative, Functional and Cognitive Neuroscience [IFCN] IRG:** In general, BDCN study sections review applications relating to abnormal and pathological states, while the IFCN IRG reviews normal aspects of brain function. For example, while IFCN and CNNT share common interests in disorders of learning and memory and diseases that involve motor systems, if the focus is to elucidate specific normal memory processes or the neural substrates of motor function, then applications may be assigned to IFCN. Applications that focus primarily on trophic, neurotransmitter and receptor function in the neural disorder or injury may be reviewed in CNNT

TOP

Cell Death in Neurodegeneration Study Section [CDIN]

Formerly BDCN-3

[CDIN Roster]

The Cell Death in Neurodegeneration [CDIN] Study Section addresses the genetic, molecular, and cellular basis of chronic neural disorders across the life span. This includes studies of neuronal cell death and protein and macromolecular function in neurodegenerative disease. Relevant disorders include neurodegenerative diseases such as Alzheimerâ€™s, Parkinsonâ€™s, Huntingtonâ€™s disease, and ALS, spinal cord injury, dystonia/ataxia, and neuropathies. This Study Section mainly reviews studies of animal models. To a lesser extent, the Study Section reviews patient-oriented research and in vitro systems.

Specific areas covered by CDIN:

- Pathology and clinical interventions; molecular, cellular, and neurochemical changes in human brain associated with neurodegeneration in disease; analysis of autopsy material; experimental therapeutic approaches and clinical trials to prevent or treat neuropathological damage, including gene therapy and tissue and cell transplantation.
- Tissue culture and animal models of neurodegeneration or trauma; generation of relevant transgenic models; models to evaluate treatments to limit or prevent cell injury and death.
- Metabolic abnormalities in degeneration; neuron viability; oxidative and free radical metabolism; mitochondrial function; glial metabolism; secondary inflammation; interaction of genetics, environment, drugs, metabolites, and age on cell dysfunction and neuropathology.
- Abnormal protein and macromolecular metabolism and function; synthesis, assembly, processing, trafficking, structure/function, regulation, and degradation of proteins and other macromolecules implicated in neurodegenerative diseases.
- Mechanisms of cell degeneration; neurotoxicity and mechanisms of cell death in neurodegenerative diseases; role of intracellular Ca++, glutamate excitotoxicity, metals, oxidative stress and free radicals, amyloid and paired helical filaments.
- Genetic basis of including identification and expression of genes, genomic screening, and linkage analysis.

CDIN has the following shared interests within the BDCN IRG:

- **With Brain Injury and Neurovascular Pathologies [BINP]:** BINP reviews acute brain injury and disorders related to ischemic or hypoxic neuronal cell death, the blood brain barrier and related vascular pathologies. CDIN reviews the genetic, molecular, and cellular basis of chronic neural disorders and some types of brain injuries across the life span, with a primary emphasis on neurodegeneration.
- **With Clinical Neuroimmunology and Brain Tumors [CNBT]:** CNBT reviews studies of neural disorders and injury that focus on immune, inflammatory and vascular mechanisms. CDIN may be more appropriate for studies where inflammation is secondary to pathophysiological processes underlying neurodegeneration.
- **With Clinical Neuroscience and Disease [CND]:** CND reviews the anatomical and functional basis of neural disease and injury at a global or systems level, while CDIN reviews the underlying mechanisms of neurodegeneration at the cellular and molecular level.
- **With Clinical Neuroplasticity and Neurotransmitters [CNNT]:** CNNT reviews applications that focus primarily on abnormalities in specific neurotransmitter systems, neurotrophins, regeneration and stem cell or gene therapy for the replacement for specific neurotrophic or neurotransmitter systems, while CDIN reviews studies of the specific cell death mechanisms that are related to these same systems.
- **With Developmental Brain Disorders [DBD]:** DBD reviews studies of neurodevelopmental disorders, especially when the focus is on unique aspects of the developing nervous system. Molecular and cellular processes associated with neurodegeneration that are in common between children and adults may be reviewed in CDIN.

CDIN has the following shared interests outside the BDCN IRG:

- **With the Cell Biology [CB] IRG:** Studies focusing on basic cell processes or an emerging cell biology approach may be assigned to the CB IRG, while studies on the cellular mechanism of neurodegenerative disorders may be assigned to CDIN.

- **With the Genes, Genomes and Genetics [GGG] IRG:** The GGG IRG has shared interests with CDIN with respect to an interest in neurodegenerative disorders. However, when the focus is primarily on molecular genetic approaches, large-scale gene/genomic/genetic studies, gene discovery using complex or novel technologies, the application could be assigned to the GGG IRG. CDIN may be more appropriate for studies within the context of mechanisms and outcomes following related to neurodegeneration.

- **With the Biology of Development and Aging [BDA] IRG:** Studies with a focus on multiple system manifestations of age-related neurological diseases such as Alzheimerâ€™s disease could be reviewed within the BDA IRG, while cellular and molecular changes associated with these diseases could be reviewed in CDIN.

- **With the Bioengineering Sciences and Technologies [BST] IRG:** Applications that focus on the design, development, and introduction of technology for gene and drug delivery in the nervous system could be assigned to the BST IRG, while applications focused on the mechanisms and functional implications associated with gene and drug delivery into the central nervous system may be assigned to CDIN

- **With the Health of the Population [HOP] IRG:** Studies dealing with descriptive and analytical epidemiologic aspects of a broad range of neurologic disorders may be reviewed within the HOP IRG, while applications that focus primarily on non-population based neurodegenerative disorders may be reviewed in CDIN.

- **With the Biobehavioral and Behavioral Processes [BBBP] and the Risk, Prevention and Health Behavior [RPHB] IRGs:** Studies with a primary focus on behavior and behavioral approaches, including outcomes, prevention and coping, could be reviewed in the BBBP or RPHB IRGs. Applications that use behavioral methods as indices of neurological recovery and experimental models of neurodegenerative disorders may be reviewed in CDIN.

- **With the Molecular, Cellular and Developmental Neuroscience [MDCN] IRG:** The MDCN IRG reviews applications on the basic cellular and molecular mechanisms of diseases of the nervous system. For example, MDCN and CDIN have shared interests in the analysis of cloned gene products involved in cell death. If the context is basic neuroscience, then MDCN may be a more appropriate locus for review. If the primary focus is on neurodegenerative disorders and their pathophysiology, then CDIN may be more appropriate.

- **With the Integrative, Functional and Cognitive Neuroscience [IFCN] IRG:** The IFCN IRG generally reviews normal aspects of brain function, while the BDCN study sections review applications relating to abnormal and pathological states. Applications that focus primarily on neurodegenerative disorders are more appropriate within BINP. For example, while IFCN and CDIN share common interests in the motor system, if the focus is to elucidate specific neural substrates of motor function, then applications may be assigned to IFCN. Applications that focus primarily on the cellular and molecular pathophysiology of motor disorders related to neurodegeneration may be more appropriate for CDIN.

TOP

Clinical Neuroimmunology and Brain Tumors Study Section [CNBT]

Formerly BDCN-4

[CNBT Roster]

The Clinical Neuroimmunology and Brain Tumors [CNBT] Study Section addresses central and peripheral nervous system disorders, including neuromuscular disorders, and injury across the life span where the focus is on infections, immune, inflammatory or vascular mechanisms. The scope of investigations ranges from in vitro and animal models to human studies and patient-oriented research. Examples of relevant disorders include: multiple sclerosis, myasthenia gravis, infectious diseases of the nervous system, spinal cord and brain injury, inflammatory neuropathies and myopathies, stroke, multi-infarct dementia, prion disease, subarachnoid hemorrhage, and nervous system tumors.

Specific areas covered by CNBT:

- Immunological processes involved in neural disease or injury; inflammatory neuropathies and autoimmune disorders; experimental models; immunological responses that affect neural function, including neuroimmune cross-reactivity; cytokines and chemokine production

- Infectious diseases specific to the nervous system or which produce prominent neurological symptoms [parasitic, fungal, bacterial, viral [but not HIV], prion]; viral neurotropism

- Role of inflammatory processes in neural disease or injury; post-ischemic or post-traumatic inflammatory processes; reactive microglia and astrocytes; healing and regenerative processes

- Vascular processes of primary or secondary involvement in neural disorders, including stroke and trauma, vasculitis, edema, and vascular malformations; cerebral blood flow and metabolic state, especially in the context of dementia, epilepsy, diabetes, or brain tumors; vascular effects of drugs or other exogenous agents

- Role of the blood-brain barrier in the etiology and progression of neural disease; traumatic brain injury; delivery of therapeutic agents, such as pharmacological compounds, viral gene therapy, and cell transplantation

- Brain ventricles and cerebrospinal fluid. Production, metabolism, circulation and regulation of CSF; screening of CSF for diagnostic purposes; intracranial pressure and ventricular space; hydrocephalus and shunts

- Tumors. Detection, diagnosis, etiology, mechanism, and treatment; neuroblastomas, gliomas, and tumors of the cerebral vasculature

CNBT has the following shared interests within the BDCN IRG:

- **With Clinical Neuroscience and Disease [CND]:** CND reviews studies of the anatomical and functional basis of neural disease and injury, including functional imaging studies; while CNBT reviews applications focused on immune, inflammatory and vascular mechanisms.

- **With Clinical Neuroplasticity and Neurotransmitters [CNNT]:** CNNT reviews applications in disease and injury that focus primarily on the neurotransmitter abnormalities; while CNBT reviews applications focused on immune, inflammatory and vascular mechanisms.

- **With Cell Death in Neurodegeneration [CDIN]:** CDIN reviews studies of the cellular and molecular basis of neuropathology, including cell death and apoptosis. CDIN may review studies where inflammation is secondary to some other cellular pathophysiology, as in ischemia.

- **With Developmental Brain Disorders [DBD]:** DBD reviews studies of neurodevelopmental disorders, making it more appropriate for applications involving the particular vulnerability of the fetal, neonatal, or pediatric brain to infectious agents and inflammation.

- **With Neural Basis of Psychopathology, Addictions and Sleep Disorders [NPAS]:** NPAS has particular expertise to review studies of addictive, behavioral, cognitive and emotional disorders; while CNBT reviews applications focused on immune, inflammatory and vascular mechanisms.

CNBT has the following shared interests outside the BDCN IRG:

- **With the Cell Biology [CB] IRG:** Studies focusing on basic cell processes or an emerging cell biologic approach may be assigned to the CB IRG, while studies that focus mainly on the immune, inflammatory, or vascular mechanisms of the neural disorder or injury may be reviewed in CNBT.

- **With the Genes, Genomes and Genetics [GGG] IRG:** The GGG IRG has shared interests with CNBT with respect to an interest in diseases of the nervous system. However, when the focus is primarily on molecular genetic approaches, large-scale gene/genomic/genetic studies, gene discovery using complex or novel technologies, the GGG IRG may be more appropriate. CNBT may be more appropriate for studies where the primary focus is on the immune, inflammatory, or vascular mechanisms of the neural disorder or injury.

- **With the Biology of Development and Aging [BDA] IRG:** Studies with a focus on multiple system manifestations of age-related neurological diseases such as Alzheimerâ€™s disease could be reviewed within the BDA IRG, while the role of neural inflammatory processes in these diseases could be reviewed in CDIN.

- **With the Health of the Population [HOP] IRG:** Studies dealing with descriptive and analytical epidemiologic aspects of various neurologic disorders including Alzheimerâ€™s disease, Parkinsonâ€™s disease, stroke and epilepsy may be reviewed within the HOP IRG, while applications that focus primarily mainly on the immune, inflammatory, or vascular mechanisms of the neural disorder or injury may be reviewed in CNBT.

- **With the Biobehavioral and Behavioral Processes [BBBP] IRG:** Studies where the primary focus is on behavior and behavioral approaches may be reviewed in the BBBP IRG. Applications that focus mainly on the immune, inflammatory, or vascular mechanisms of the neural disorder or injury may be reviewed in CNBT.

- **With the Immunology [IMM] IRG:** There is some overlap with respect to basic and clinical studies of neuroimmune reactions. The IMM IRG may be more appropriate for studies with a primary focus on cellular immunology or antigen processing, but CNBT may review applications that have a primary focus on the nervous system, neuromuscular interactions, or neural function. CNBT has some shared interests with IMM regarding neuroimmune interactions and autoimmune disorders. IMM may be more appropriate for studies with a primary focus on cellular immunology and other aspects of immune function. CNBT may review applications that have a primary focus on the nervous system,

neuromuscular interactions, or neural function. CNBT may be considered for applications on myasthenia gravis and multiple sclerosis.

- **With the Infectious Diseases and Microbiology [IDM] IRG:** Applications that focus on infective agents such as bacteria, fungi, viruses and prions could be assigned to the IDM IRG, while those focusing on the neurological manifestations of bacterial, fungal, viral or prion diseases of the nervous system could be assigned to CNBT.

- **With the Oncological Sciences [ONC] IRG:** Applications that address more general aspects of cancer mechanisms may be reviewed in ONC, but applications focused on neuropathology, neurophysiology, functional outcome, and other neural issues may be reviewed in CNBT.

- **With the Cardiovascular Sciences [CVS] IRG:** Studies dealing with cerebral circulation and hemodynamics could be assigned to the CVS IRG, while those focusing on vascular processes particularly within the context of brain tumors could be assigned to CNBT.

- **With the Molecular, Cellular and Developmental Neuroscience [MDCN] IRG:** The MDCN IRG reviews applications on the basic cellular and molecular mechanisms of diseases of the nervous system, while applications focused on the immune, inflammatory, or vascular mechanisms of the neural disorder or injury may be reviewed in CNBT.

- **With the Integrative, Functional and Cognitive Neuroscience [IFCN] IRG:** In general, BDCN study sections review applications relating to abnormal and pathological states, while the IFCN IRG reviews normal aspects of brain function. While IFCN may review applications that elucidate specific neural substrates of motor, sensory or cognitive function, CNBT may review applications with a primary focus on the immune, inflammatory, or vascular mechanisms of the neural disorder or injury.

TOP

Developmental Brain Disorders Study Section [DBD]

Formerly BDCN-5

[DBD Roster]

The Developmental Brain Disorders [DBD] Study Section addresses disorders that impact specifically the developing brain and spinal cord. This includes genetic, metabolic, infectious, environmental, and behavioral influences on the fetal, neonatal or pediatric brain that lead to abnormal brain development and function. The Study Section has clinical and basic expertise in the vulnerability and plasticity of the developing brain, and can review patient-oriented research in children and relevant animal models.

Specific areas covered by DBD:

- Brain development in utero. Transplacental exposure to maternal drugs, and metabolic imbalances.

- Perinatal insults and low-birth-weight infants. Developmental aspects of perinatal injury, hypoxic/ischemia, pediatric epilepsy, congenital infections involving the CNS [excluding HIV].

- Genetic, metabolic and morphological abnormalities. Developmental abnormalities of brain structure, volume, and ventricular space; congenital CSF abnormalities [hydrocephalus]; developmental aspects of inborn errors of metabolism, storage diseases, and neurotransmitter/receptor function; genetic basis of metabolic and morphological abnormalities

- Developmental disorders. Mental retardation, learning disabilities, specific language impairment, dyslexia, autism, cerebral palsy, sudden infant death syndrome [SIDS], and other relevant disorders.

- Therapeutic interventions and brain plasticity. Medical, surgical, pharmacological, and behavioral interventions; plasticity and rehabilitation in the developing brain; clinical studies in children.

- Genetics and animal models. Identification and characterization of genetic mechanisms and development of animal models and therapeutic strategies that are specifically relevant to disorders of the developing brain.

DBD has the following shared interests within the BDCN IRG:

- **With Other BDCN Study Sections:** DBD has shared interests with all of the other BDCN study sections. Applications involving unique aspects of the developing brain may be reviewed in DBD. However, applications on neural disorders and injuries in the mature brain or mechanisms and approaches that are common to the developing and mature brain [even if they involve children] may be reviewed in the

appropriate BDCN Study Section. Among the cognitive and behavioral disorders, studies of mental retardation, autism, may be reviewed in DBD.

DBD has the following shared interests outside the BDCN IRG:

- **With the Genes, Genomes and Genetics [GGG] IRG:** The GGG IRG has shared interests with DBD with respect to an interest in diseases of the nervous system. However, when the focus is primarily on molecular genetic approaches, large-scale gene/genomic/genetic studies, gene discovery using complex or novel technologies, the GGG IRG may be more appropriate. Applications focusing on the vulnerability and plasticity of the developing brain may be assigned to DBD.

- **With the Biology of Development and Aging [BDA] IRG:** Studies with a primary focus on development mechanisms involved in formation of organ primordial such as brain and spinal cord and mechanism based analyses of primordial birth defects may be assigned to the BDA IRG. Applications focusing on the vulnerability and plasticity of the developing brain may be assigned to DBD.

- **With the Health of the Population [HOP] IRG:** Studies dealing with descriptive and analytical epidemiologic aspects of various pediatric neurologic disorders may be reviewed within the HOP IRG, while applications that focus primarily mainly on the vulnerability and plasticity of the developing brain may be assigned to DBD.

- **With the Biobehavioral and Behavioral Processes [BBBP] IRG:** Studies of developmental disabilities that are primarily behavioral in emphasis could be reviewed in the BBBP IRG. These include studies, predominantly of humans, of low birth weight and intrauterine growth retardation, mental retardation, learning disabilities, autism, cerebral palsy and neuromotor disorders, and prenatal exposure to toxins, alcohol, and substances of abuse. Applications focusing on the vulnerability and plasticity of the developing brain could be assigned to DBD.

- **With the Cardiovascular Sciences [CVS] IRG:** Studies dealing with cerebral circulation and hemodynamics may be assigned to the CVS IRG, while those focusing on cerebral blood flow and the cellular and molecular consequences of ischemia, hypoxia, stroke on in the neonatal or pediatric brain or spinal cord may be assigned to DBD.

- **With the Endocrinology, Metabolism, Nutrition and Reproductive Sciences [EMNR] IRG:** Applications on more general aspects of embryology, development, and transplacental interactions may be reviewed in the EMNR IRG, but applications that focus on disorders of the developing brain may be reviewed in DBD.

- **With the Musculoskeletal, Oral and Skin Sciences [MOSS] IRG:** DBD has shared interests with the MOSS IRG in the area of pediatric rehabilitation. MOSS has broad expertise in physical therapy, physiology, and non-neuronal systems, while DBD may be more appropriate for studies of plasticity and recovery involving unique aspects of the developing brain.

- **With the Molecular, Cellular and Developmental Neuroscience [MDCN] IRG:** Studies on development and plasticity of the nervous system may be reviewed in the MDCN IRG, especially when the application has a more fundamental focus. DBD may be more appropriate if the focus is on the vulnerability and plasticity of the developing brain, particularly where there are clinical implications.

- **With the Integrative, Functional and Cognitive Neuroscience [IFCN] IRG:** In general, BDCN study sections review applications relating to diseases and pathological states, while the IFCN IRG reviews basic and systems approaches to the study of brain function. DBD has shared interests with the IFCN IRG with respect to the interaction of alcohol and the developing nervous system. The IFCN IRG, which is focused particularly on alcohol and toxicant interactions with the central nervous system, may be more appropriate for the review of general studies of alcohol or toxicant teratogenesis and pathophysiology. DBD may be considered if the primary focus is on the neural substrate and the vulnerability of the developing brain.

TOP

Neural Basis of Psychopathology, Addictions and Sleep Disorders Study Section [NPAS]

Formerly BDCN-6

[NPAS Roster]

The Neural Basis of Psychopathology, Addictions and Sleep Disorders [NPAS] Study Section addresses the neurobiological basis of addictive, behavioral, cognitive and emotional disorders across the life span. NPAS covers a very broad range of topics including structural, functional, electrophysiological, biochemical, pharmacological, neuroanatomical, neuroendocrine, neurotoxicological, physiological, genetic, and neuropsychological aspects of these disorders.

Specific areas covered by NPAS:

- Addictive disorders. Etiology, pathogenesis, pathophysiology, and treatment strategies of substance abuse, and addictive disorders; comorbidity

factors, including emotional, infectious, and degenerative disorders; structure/function changes and plasticity in the nervous system; neurobiological, behavioral and cognitive processes underlying drug-seeking behavior, craving, tolerance, withdrawal, relapse, dependence and sensitization; neurobiological basis of individual differences in vulnerability and resiliency to drug abuse.

- Behavioral, cognitive and emotional disorders. Etiology, pathogenesis, pathophysiology, diagnosis and/or treatment of a wide range of disorders, including: schizophrenia and other psychotic disorders, mood disorders, anxiety disorders [including phobic disorders, obsessive-compulsive disorder, and post-traumatic stress disorder], cognitive disorders [including delirium and amnestic disorders], attention disorders, activity disorders, sleep disorders, and personality disorders.

- Genetic basis and models of addictive and mental disorders. Identification and expression of genes or genetic mechanisms associated with addictive and mental disorders or models of these disorders, genomic screening, and linkage analysis.

NPAS has the following shared interests within the BDCN IRG:

- **Other BDCN Study Sections:** The other BDCN Study Sections have particular expertise in the anatomical, functional, neurotransmitter, molecular, cellular and developmental aspects of neural disorders and injury. However, applications where the primary focus is on neurobiological basis of addictive, behavioral, cognitive [other than dementia-associated], and emotional disorders may be reviewed in NPAS.

- **With Developmental Brain Disorders [DBD]:** Applications relating to childhood disorders may be reviewed in DBD if they focus on some unique aspect of the developing brain [i.e., mental retardation, autism], but applications involving mechanisms that are common to the mature brain [i.e., anxiety disorders, ADHD, eating disorders, tic disorders] may be reviewed in NPAS.

NPAS has the following shared interests outside the BDCN IRG:

- **With the Genes, Genomes and Genetics [GGG] IRG:** The GGG IRG has shared interests with NPAS with respect to an interest in diseases of the nervous system. However, when the focus is primarily on molecular genetic approaches, large-scale gene/genomic/genetic studies, gene discovery using complex or novel technologies, the GGG IRG may be more appropriate. NPAS may be more appropriate for studies where the primary focus is on the neurobiological basis of addictive, behavioral, cognitive, and emotional disorders.

- **With the Biology of Development and Aging [BDA] IRG:** Studies with a focus on multiple system manifestations of age-related neurological diseases such as Alzheimerâ€™s disease may be reviewed within the BDA IRG, while applications where the primary focus is on the neurobiological basis of addictive, behavioral, cognitive, and emotional disorders may be reviewed in NPAS.

- **With the Health of the Population [HOP] IRG:** Studies dealing with descriptive and analytical epidemiologic aspects of various neurologic disorders including Alzheimerâ€™s disease, Parkinsonâ€™s disease, stroke and epilepsy may be reviewed with the HOP IRG, while applications that focus primarily mainly on the neurobiological basis of addictive, behavioral, cognitive, and emotional disorders may be reviewed in NPAS.

- **With the Biobehavioral and Behavioral Processes [BBBP] IRG:** Studies that focus primarily on behavior and behavioral approaches could be reviewed in the BBBP IRG. Applications that focus mainly on the neurobiological basis of addictive, behavioral, cognitive, and emotional disorders could be reviewed in NPAS.

- **With the Integrative, Functional and Cognitive Neuroscience [IFCN] IRG:** In general, the IFCN study sections review normal aspects of brain function, while BDCN study sections review applications relating to diseases and pathological states. Applications where the primary focus is on alcohol or toxicant pathophysiology may be reviewed within the IFCN IRG. However, those studies where alcoholism is a comorbid factor may be reviewed in NPAS.

- **With the Surgical Sciences, Biomedical Imaging and Bioengineering [SBIB] IRG:** For studies concerned with development of imaging technology, the SBIB IRG may be appropriate. However, where the proposed research is oriented toward the application of imaging techniques for studying addictive, cognitive, behavioral, or emotional disorders or their treatment, NPAS may be more appropriate. Both NPAS and the SBIB IRG may review applications dealing with functional brain imaging; however, NPAS may be more appropriate to review those applications using imaging as a tool for studying addictive, cognitive, behavioral, or emotional disorders or their treatment. SBIB may be more appropriate for applications concerning development and evaluation of imaging procedures.

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Brain Injury and Neurovascular Pathologies Study Section [BINP]

[BINP Roster]

The Brain Injury and Neurovascular Pathologies [BINP] Study Section addresses the genetic, molecular and cellular basis of acute brain injury across the life span. This includes studies of neuronal cell death, the blood brain barrier and related vascular pathologies. Relevant disorders include stroke, ischemia, hypoxia, traumatic brain injury and intracerebral hemorrhage. This Study Section mainly reviews studies of animal models. To a lesser extent the Study Section reviews patient-oriented research and in vitro systems.

Specific areas covered by BINP:

- Development of potential therapeutics associated with molecular, cellular, and neurochemical changes in the brain following acute injury; analysis of autopsy material; therapeutic approaches to prevent or treat neuropathological damage, including identification of novel targets and pharmacological interventions.

- Tissue culture and animal models of acute brain injury and damage; generation of relevant transgenic models; models to evaluate treatments to limit or prevent cell injury and death after acute injury to the brain.

- Metabolic abnormalities after acute brain injury; neuron viability; oxidative and free radical metabolism; mitochondrial function; glial metabolism; secondary inflammation; interaction of environment, drugs, metabolites, genetics and age on cell dysfunction and neuropathology after vascular, hypoxic or ischemic injury.

- Abnormal protein and macromolecular metabolism and functin; synthesis, assembly,processing, trafficking, structure/function, regulation, and degradation of proteins and other macromolecules implicated in acute brain injury.

- Mechanisms of cell degeneration following acute brain injury; neurotoxicity and mechanisms of cell death; role of oxidative stress and free radicals, intracellular Ca++.

- Identification and expression of genes and proteins associated with acute injury to the nervous system.

BINP has the following shared interests within the BDCN IRG:

- **With Cell Death in Neurodegeneration [CDIN]:** CDIN reviews the genetic, molecular, and cellular basis of chronic neural disorders and some types of brain injuries across the life span, with a primary emphasis on neurodegeneration. BINP focuses on acute brain injury and disorders related to ischemic or hypoxic n euronal cell death, the blood brain barrier, and related vascular pathologies.

- **With Clinical Neuroimmunology and Brain Tumors [CNBT[:** CNBT reviews studies of neural disorders and injury that focus on immune, inflammatory and vascular mechanisms related to pathophysiological processes such as Multiple Sclerosis, while BINP may be more appropriate for studies where inflammation is secondary to a pathophysiological process associated with acute injury.

- **With Clinical Neuroscience and Disease [CND]:** CND reviews the anatomical and functional basis of neural disease and injury at a global or systems level including patient-oriented research, while BINP reviews studies of acute brain injury at the cellular and molecular level.

- **With Clinical Neuroplasticity and Neurotransmitters [CNNT]:** CNNT reviews applications that focus primarily on abnormalities in specific neurotransmitter systems, neurotrophins, regeneration and stem cell or gene therapy for the replacement for specific neurotrophic or neurotransmitter systems, while BINP evaluates studies of the ischemic or hypoxic cell death mechanisms that may be related to these same systems.

- **With Developmental Brain Disorders [DBD]:** DBD reviews studies of neurodevelopmental disorders, especially when the focus is on unique aspects of the developing nervous system. Molecular and cellular processes associated with acute brain injury, that are in common across both children and adults, may be reviewed in BINP.

BINP has the following shared interests outside the BDCN IRG:

- **With the Cell Biology [CB] IRG:**Studies focusing on basic cell processes or an emerging cell biology approach may be assigned to the CB IRG, while studies on the same processes within the context of neurological disorders related to acute brain injury may be assigned to BINP.

- **With the Genes, Genomes and Genetics [GGG] IRG:**The GGG IRG has shared interests with BINP with respect to an interest in neurological disorders related to acute brain injury. However, when the focus is primarily on molecular genetic approaches, large-scale gene/genomic/genetic studies, gene discovery using complex or novel technologies, the application could be assigned to the GGG IRG. BINP may be more appropriate for studies within the context of mechanisms and outcomes following acute brain injury.

- **With the Biology of Development and Aging [BDA] IRG:** Studies with a focus on multiple system manifestations of age-related neurological diseases such as Alzheimerâ €™s disease could be reviewed within the BDA IRG, while studies with a primary focus on mechanisms and outcomes of neurological disorders related to acute brain injury couldbe reviewed in BINP.

- **With the Bioengineering Sciences and Technologies [BST] IRG:** Applications that focus on the design, development, and introduction of technology for gene and drug delivery in the nervous system could be assigned to the BST IRG, while applications focused on the mechanisms and functional implications associated with gene and drug delivery into the central nervous system may be assigned to BINP.

- **With the Health of the Population [HOP] IRG:** Studies dealing with descriptive and analytical epidemiologic aspects of a broad range of neurologic disorders may be reviewed within the HOP IRG, while applications that focus primarily neurological disorders related to acute brain injurymay be reviewed in BINP.

- **With the Biobehavioral and Behavioral Processes [BBBP] IRG and the Risk, Prevention and Health Behavior [RPHB] IRGs:** Studies with a primary focus on behavior and behavioral approaches, including outcomes, prevention and coping, could be reviewed in the BBBP or RPHB IRGs. Applications that use behavioral methods as indices of neurological recovery and experimental models of neurological disorders related to acute brain injury may be reviewed in BINP.

- **With the Cardiovascular Sciences [CVS] IRG:** Studies dealing with cerebral circulation and hemodynamics primarily affecting the cardiovascular system may be assigned to the CVS IRG, while those focusing on cerebral blood flow and the cellular and molecular consequences of ischemia, hypoxia and stroke on brain may be assigned to BINP.

- **With the Molecular, Cellular and Developmental Neuroscience [MDCN] IRG:** The MDCN IRG reviews applications on the basic cellular and molecular mechanisms of diseases of the nervous system. If the context is basic neuroscience, then MDCN may be a more appropriate locus for review. If the primary focus is on neurological disorders related to acute brain injuryand their pathophysiology, then BINP may be more appropriate.

- **With the Integrative, Functional and Cognitive Neuroscience [IFCN] IRG:** The IFCN IRG generally reviews normal aspects of brain function, while the BDCN study sections review applications relating to abnormal and pathological states. Applications that focus primarily on neurological disorders related to acute brain injury are more appropriate within BINP. For example, while IFCN and BINP share common interests in the blood brain barrier, if the focus is to elucidate the role of the BBB as it relates to normal physiologic processes, then applications may be assigned to IFCN. Furthermore, IFCN reviews applications focused on assessment of cognitive function in a physiological context while BINP may use the same approaches to study cognitive decline and recovery in the context of brain injury.

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Anterior Eye Disease Study Section [AED]

Formerly VISA

[AED Roster]

The Anterior Eye Disease [AED] Study Section reviews basic, applied, and clinical research proposals to investigate the cornea, lens, conjunctiva, ciliary body, and lacrimal gland. Proposals reviewed by AED address anatomical, physiological, molecular and genetic aspects of the anterior eye related to normal and pathological processes. In addition, proposals to study retinal ganglion cells in association with glaucoma are reviewed by AED.

Specific areas covered by AED:

- Disorders of the anterior segment of the eye, including the following: glaucoma; cataracts; congenital and developmental abnormalities; inflammatory and infectious diseases; hereditary and degenerative diseases; and ocular manifestations of systemic diseases, tumors, injury, and trauma
- Experimental embryology and pathology of the eye
- Fundamental ophthalmic research, including: anatomy; physiology; genetics; molecular biology; biochemistry; physical chemistry; immunochemistry
- Transport of ions and fluids through ocular membranes
- Development of normal and experimentally or pathologically altered eye tissues, excluding the retina/choroid
- Ocular immunology and virology.

AED has the following shared interests outside the BDCN IRG:

- **With the Biological Chemistry and Macromolecular Biophysics [BCMB] IRG:** AED has shared interests with the BCMB IRG regarding applications that focus on the structure-function of lens proteins (e.g., crystallins), cell to cell communication via gap junction proteins (connexins), and ionic homeostasis of the cornea maintained by membrane transport proteins of the corneal epithelium and endothelium. The BCMB IRG may review applications focusing on protein sequencing, or the theoretical and computational aspects of protein chemistry. The AED Study Section focuses more on the functional consequences of protein structure related to lens or corneal clarity and preservation of visual acuity.
- **With the Genes, Genomes and Genetics [GGG] IRG:** AED has shared interests with the GGG IRG regarding applications dealing with the complex genetic traits associated with glaucoma and various corneal dystrophies. The GGG IRG may review applications focusing on computational genetics, mechanisms for the regulation of gene expression and chromosome maintenance. The AED Study Section may review applications focusing on the regulation or patterns of gene expression that are fundamental for normal vision, or on the genetic mutations that underlie pathological processes leading to visual impairment (e.g., glaucoma, cataract, corneal dystrophies).

- **With the Cell Biology [CB] IRG:** Studies of the retina/choroid are reviewed mainly by the CB IRG. However, studies focused on immunology, inflammation, and infection are more appropriate for AED, as are studies on glaucoma, even if retinal cells are primarily involved.

- **With the Biology of Development and Aging [BDA] IRG:** AED has shared interests with BDA regarding applications that focus on ocular (globe) or lens development. The BDA IRG may review applications focusing on the fundamental mechanisms of organogenesis, control of cell cycle, cell signaling and apoptosis, response to stress and tissue repair. Similar topics may be reviewed by AED when they involve the unique requirements associated with optical clarity in the eye.

- **With the Immunology [IMM] IRG:** AED has shared interests with the IMM IRG regarding applications that focus on the immune system's role in host interactions with infectious agents, tumor cells and transplanted cells. The AED Study Section may review applications that involve the unique ocular responses to infectious or autoimmune processes that impact the cornea (keratitis), ocular conjunctiva (conjunctivitis), uvea (uveitis), ocular immune privilege or ocular glandular tissue (dry eye syndrome, blepharitis, Sjogrenâ€™s syndrome).

- **With the Integrative, Functional and Cognitive Neuroscience [IFCN] IRG:** The IFCN IRG reviews applications that emphasize the normal visual process or that involve techniques that are primarily used by visual physiologists or visual psychophysicists. In addition, eye movement studies, both clinical and theoretical, may be reviewed by IFCN as well as psychophysical studies of glaucoma. AED may be more appropriate if the focus is on the anatomical, physiological, molecular and genetic aspects of the anterior eye related to normal and pathological processes.

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BDCN Small Business Activities [SBIR/STTR] Special Emphasis Panels [BDCN Small Business SEPs]

[SBIR/STTR Rosters]

The BDCN IRG's Small Business Activities are captured in three Special Emphasis Panels (SEPs). Two SEPs [**BDCN (10)** and **BDCN (11)]** review a wide range of applications that have, as their main focus, neural disorders and/or injury of the nervous system. In addition, a third SEP within the BDCN IRG reviews applications that have, as their main focus, disorders of the eye. Each of these study sections focus on applications under the SBIR/STTR programs. Some non-SBIR/STTR mechanisms (e.g., R01 or R21) that are related thematically and/or have an approach and goals comparable to those in the SBIR/STTR programs are also reviewed by these special emphasis panels.

Specific areas covered by the BDCN Small Business SEPs:

The topics covered in **BDCN (10): Clinical Neurophysiology, Devices and Neuroprosthesis Small Business SEP** include developing new monitoring devices (amplifiers, electrodes) and analyses tools for EEG and related signals (ERPs) for applications in the fields of epilepsy, sleep disorders, neurological critical care, and some other miscellaneous applications such as cognitive alterations. New applications of imaging methodologies and ancillary tools for diagnostics and research applications are also reviewed in this study section. Implantable electrodes and various aspects of neuroprosthetics devices (new arrays, telemetry, external power, etc.) and their clinical and research applications are also covered. The study section also reviews applications related to monitoring and interventional tools for the neurovascular defects (such as aneurysms), stroke, and ICP monitoring.

The topics covered in **BDCN (11): Pharmacology and Diagnostics for Neuropsychiatric Disorders Small Business SEP** include basic and clinical aspects of nervous systems disorders, with emphasis on applied research oriented towards developing treatments, diagnostic methods, and models of disease for testing of new treatments. Among the specific topics covered are psychiatric and neurological conditions, including neurodegeneration (e.g., Alzheimerâ€™s, Parkinsonâ€™s, Multiple Sclerosis), stroke, depression and schizophrenia. The specific types of project include medicinal chemistry and pre-clinical development, assay development, diagnostic methods, development of cellular and animal models, and some clinical studies to establish proof-of-principle for new or new uses of existing drugs.

The topics covered in **BDCN (12): Visual Systems Small Business SEP** include novel medical devices, monitoring systems and adaptation/improvement of existing technologies for normal and pathologic states of the eye. Also included is the development of devices to aid the blind and visually impaired.

The BDCN Small Business SEPs have the following shared interests outside the BDCN IRG:

- **With the Molecular, Cellular and Developmental Neuroscience [MDCN] IRG:** The BDCN Small Business SEPs share some interests with the MDCN IRG. If the focus is on more molecular aspects, non-vertebrate models, and less immediate clinical applications then the application may be reviewed within MDCN. However, if the clinical implications are more immediate then they may be reviewed within BDCN.

- **With the Integrative, Functional and Cognitive Neuroscience [IFCN] IRG:** Applications focusing on the development of medications for pain and devices related to sensory systems other than vision could be assigned to the IFCN IRG, while those with a primary focus of neural disorders or injury to the nervous system may be more appropriate for BDCN.

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Brain Disorders and Related Neurosciences Fellowship Study Section [F01]

Brain Disorders and Related Neuroscience

[Brain Disorders and Clinical Neuroscience (BDCN) Integrated Review Group]

[F01 Roster]

The F01 fellowship study section reviews fellowship applications in the areas covered by the BDCN IRG. The emphasis in F01 is on clinical disorders of the human brain and related mammalian models of disease. Areas reviewed include: clinical neurosciences and disease, neuroplasticity and neurotransmitters, cell death and injury as it applies to neurodegeneration, clinical neuroimmunology and brain tumors, developmental brain disorders, the neural bases of psychopathology and addiction, sleep disorders, genetic basis of central nervous system disorders, and eye disease. The F01 study section reviews studies of in vitro systems, animal models, and patient-oriented research. Examples of specific areas covered are listed below

- Stroke/ischemia/central nervous system injury
- Epilepsy
- Movement disorders, Parkinson's disease
- Autism, schizophrenia, models for disorders
- Central nervous system consequences of drug exposure
- Alzheimer's disease
- Plasticity and recovery
- Anterior eye disease
- Central nervous system tumors
- Multiple sclerosis
- Behavioral, cognitive and emotional disorders

Shared Interests:

With F02A (Behavioral Neuroscience) and F02B (Sensory, Motor, and Cognitive Neuroscience): If applications emphasize studying neural systems without reference to disease, they may be more appropriate for the F02 fellowship study sections. If applications emphasize studying the systems with reference to a neurological disorder, they may be more appropriate for F01. With respect to the visual system, F01 may be more appropriate for fellowship applications dealing with anterior eye diseases; F02B may be more appropriate for fellowship applications dealing with visual processing and related portions of the brain, eye, and oculomotor system.

With F03A (Biochemical and Molecular Neuroscience) and F03B (Biophysical and Biochemical Sciences): If applications emphasize molecular and/or basic mechanisms of neural development and function, then assignment to the F03 fellowship study sections may be appropriate; if applications emphasize disease processes, then assignment to the F01 fellowship study section may be appropriate.

With F05 (Cell Biology and Development) in the area of the anterior eye: Fellowship applications on diseases of the anterior eye may be assigned to F01, while those on basic biology may be assigned as appropriate, e.g., F05 may review fellowship applications on the basic cell biology of the lens.

With the Biobehavioral and Behavioral Processes (BBBP) Integrated Review Group: If the application deals with neural substrates of disorders and imaging techniques such as MRI, fMRI, etc. assignment to F01 may be appropriate. If emphasis is on psychology and cognition, assignment to BBBP may be appropriate.

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